Message

From: Davis, Eva [Davis.Eva@epa.gov]
Sent: 7/12/2016 9:34:53 PM
To: d'Almeida, Carolyn K. [dAlmeida.Carolyn@epa.gov]; Dan Pope [DPope@css-dynamac.com]
CC: Henning, Loren [Henning.Loren@epa.gov]; Levine, Herb [Levine.Herb@epa.gov]; Wayne Miller [Miller.Wayne@azdeq.gov]
Subject: RE: Tentative -Williams AFB ST012

They threw out most of what was in the may 2014 WP for EBR – including the recirculation that would provide hydraulic control. I don't have the draft and draft final reports handy, but I agree we should check them –

From: d'Almeida, Carolyn K.
Sent: Tuesday, July 12, 2016 4:24 PM
To: Davis, Eva <Davis.Eva@epa.gov>; Dan Pope <DPope@css-dynamac.com>
Cc: Henning, Loren <Henning.Loren@epa.gov>; Levine, Herb <Levine.Herb@epa.gov>; Wayne Miller <Miller.Wayne@azdeq.gov>
Subject: RE: Tentative -Williams AFB ST012

If this was in the 2014 RD/RA WP for SEE, why didn't they omit It from the current EBR workplan? Dan was asking for milestones on the draft and we didn't get it in the draft final. In the 2014 RD/RA workplan the EBR design was very conceptual and at that point I believe they were leaning toward aerobic processes rather than anaerobic. It would be worth it to check if it was in the draft and draft final versions, because if it wasn't in there, we had no opportunity at all to comment on it.

While they are now saying concentrations >5000 ppb are suitable for EBR transition, what they actually established in the workplan transition criteria was >500 ppb, and it was repeated a few times and could not be a typo. I too have not seen any basis presented for >5000 ppb criteria in any of the reports.

From: Davis, Eva
Sent: Tuesday, July 12, 2016 1:46 PM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Dan Pope <DPope@css-dynamac.com>
Cc: Henning, Loren <Henning.Loren@epa.gov>; Levine, Herb <Levine.Herb@epa.gov>
Subject: RE: Tentative -Williams AFB ST012

Carolyn –

The table on slide 16 is Table E-4.15 from appendix E of the May 2014 RD/RA WP, as the slide states. I don't know if this table was in earlier versions of the WP, but it is the final version. As to how they came up with these results, Section 4.5.3 of Appendix E states, "Calibrated Monod Kinetic rate constants including maximum utilization rates and half-saturation values as well as electron acceptor use coefficients for benzene, remaining hydrocarbons, and the electron acceptors were used as published in the TEE Pilot Test Report . . .". I have confirmed that these coefficients given in Tables E-11, E-4.12, and E-4.13 are the same as in Appendix M of the TEE report, which says that the values came from a calibration of the fate and transport model to the petroleum hydrocarbon concentrations or from other models. The modeling reported in the RD/RA WP was done before the EBR pilot study, so they assumed a 10 fold increase in these rates at ambient conditions to account for the sulfate enhancement, to make the predicted concentrations given in table E-4.15. Subsequently the EBR field test was carried out at Williams, and they came up with a maximum TPH degradation rate that is 2.4 times faster than that used in the modeling. However, Dan's letter of May 17, 2016 points out that any conclusions from the pilot test are highly uncertain, due to problems with the data from the test.

The report does not say what the assumed benzene concentrations at the time EBR starts. Slide 11 states that the benzene target at interior CZ and UWBZ locations <5,500 ug/l are suitable for transition to EBR. I've heard that number

thrown around before, but even after carefully reading through the modeling report I still don't see where that comes from. The weekly report for the week ending May 27, 2016 shows three CZ wells with higher concentrations on 4/19, and three UWBZ wells that exceed this criteria.

Latest data on extraction rates for the SVE system show that the extraction rates are still exceeding the 10% of peak criteria – I don't see how a reasonable person could look closely at the data and agree that they had met the SEE termination criteria.

Dan is telling us that it is not reasonable to think that the ROD goals can be met using EBR to treat the amount of LNAPL that they say remains. Table E-4.8 (appendix E of the RD/RA WP) shows 340,525 gallons of LNAPL remaining in the UWBZ. As shown on Figure E-4.1, that is above the treatment zone in the LSZ, and thus was – is - accessible for SEE. Slide 6 mentions the inaccessibility of the LNAPL beneath Sossaman, but if Figure E-4.1 is correct, as much or more of the LNAPL remaining in the LSZ is actually upgradient of the SEE treatment area, where wells are being put in now.

From: d'Almeida, Carolyn K.
Sent: Monday, July 11, 2016 4:13 PM
To: Davis, Eva <Davis.Eva@epa.gov>; Dan Pope <DPope@css-dynamac.com>
Cc: Henning, Loren <Henning.Loren@epa.gov>; Levine, Herb <Levine.Herb@epa.gov>
Subject: FW: Tentative -Williams AFB ST012

Eva/Dan
Attached are slides from Phil Mooks meeting with Branch Chiefs. Of particular interest, see slide 16. AF is not inserting milestones into the workplan that weren't in the March15 draft. Do you think these milestones are achievable? Do we even have enough data at present to determine if they are achievable? How will we know if concentrations are decreasing via degradation vs via advection and dispersion?

From: d'Almeida, Carolyn K.
Sent: Monday, July 11, 2016 11:38 AM
To: Herrera, Angeles <Herrera.Angeles@epa.gov>
Cc: Butler, Thomas <Butler.Thomas@epa.gov>; Henning, Loren <Henning.Loren@epa.gov>; Levine, Herb <Levine.Herb@epa.gov>
Subject: RE: Tentative -Williams AFB ST012

Angeles

My comments attached. Good luck on your call

I will update the chronology. Did you have any other comments on it?

Carolyn

From: Herrera, Angeles
Sent: Monday, July 11, 2016 10:33 AM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>
Cc: Butler, Thomas <Butler.Thomas@epa.gov>; Henning, Loren <Henning.Loren@epa.gov>; Levine, Herb <Levine.Herb@epa.gov>
Subject: FW: Tentative -Williams AFB ST012

Hi Carolyn,

Please review the attached presentation and provide me with your comments.

Also, Thanks for putting the ST12 shutdown chronology of events. Can you please take it back to dates when the original ROD was signed, Disputed, resolved, amended, AF provided workplans for the RD and RA. Thanks.

From: MOOK, PHILIP H JR GS-15 USAF AFCEC AFCEC/CIBW [mailto:philip.mook@us.af.mil]
Sent: Monday, July 11, 2016 7:56 AM
To: Herrera, Angeles <Herrera.Angeles@epa.gov>; Tina LePage <LePage.Tina@azdeq.gov>
Cc: Henning, Loren <Henning.Loren@epa.gov>
Subject: RE: Tentative -Williams AFB ST012

Dear Ms. Herrera and Ms. LePage,

I request the opportunity to present the attached slides at today's teleconference. I'll take no longer than 15 minutes to do so.

Thanks,

<<...>>

//SIGNED//

Philip H. Mook, Jr., P.E.

BRAC Program Management/Western Region

Air Force Civil Engineer Center

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-----Original Appointment-----
From: Kwok, Frances [mailto:Kwok.Frances@epa.gov] **On Behalf Of** Herrera, Angeles
Sent: Tuesday, July 05, 2016 3:26 PM
To: Herrera, Angeles; MOOK, PHILIP H JR GS-15 USAF AFCEC AFCEC/CIBW; Tina LePage
Subject: Tentative -Williams AFB ST012
When: Monday, July 11, 2016 2:00 PM-3:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: R9SF-ConferenceLine-SFD-Card2; R9SF-VTCRoom-10111-20-GrandCanyon

Dial-In Number: (866)299-3188

Conference Code: 4159722020